

REMARKS

The applicant respectfully requests reconsideration in view of the amendment and the following remarks. The applicant has amended the claims in order to overcome the 35 U.S.C. 112, second paragraph rejection.

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 906 373 B1 (Hubbard et al.) in view of U.S. 5,525,421 (Knoerzer). We submitted both of these references to the Examiner. Hubbard is cited at page 9, third paragraph of the specification.

Rejection under 35 U.S.C. 112

Claims 1-21 are rejected under 35 U.S.C. 112, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant believes that the claims as amended are in compliance with 35 U.S.C. 112, second paragraph. For the above reasons, this rejection should be withdrawn.

Rejection under 35 U.S.C. 103(a)

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard in view of Knoerzer. The applicant submitted both of these references to the Examiner. Hubbard is cited at page 9, third paragraph of the specification.

Hubbard is the closest prior art. Hubbard refers to polysilicate coating which comprise an additional vermiculite or other layered inorganic mineral fillers, mostly layered silicate materials

(see paragraph nos. [0011], [0016], [0019] and [0021]). It appears that these layered silicates help the oxygen barrier of the polysilicate coating, because the combined coating of layered silicate and polysilicate is better than the mere polysilicate without layered silicates (see the examples). The tables in Hubbard refer to the examples and report mostly quite poor barrier values, with a few exceptions which seem to be excellent (e.g. table II, sample F and G). It seems this result teaches that good oxygen barrier is only achieved with a high percentage of vermiculite in the coating. Then in table V reports also somewhat better values, but still not great values (all in the order of 120 to 395). And finally table VI adds two examples with additional primer, such as PHS and PVOH which have very good oxygen barrier as well.

The applicant believes that Hubbard does not by any means teach that it could be derived that a modified surface combined with a primer improves the oxygen barrier of the polysilicate coating. The applicant concedes that it can be derived from Hubbard that the polysilicate coating has already been combined with a primer of PVOH (though according to Hubbard in combination with the vermiculite). However, the PVOH primer and polysilicate without the vermiculite on a non -modified polyolefin film results only in an oxygen barrier of 6.41 (comparative example 8 of the instant invention). The applicant has found that a modified surface of the polyolefin film underneath the primer helps the oxygen barrier of the polysilicate coating which is not even in contact with such modified polyolefion film surface. It could not be derived from Hubbard that a modified polyolefin surface underneath the primer improves the O₂ barrier of the polysilicate coating on top of such primer to a level of <1 without any vermiculite.

The surprising effect of the applicant's invention is that the barrier provided by the polysilicate coating could be improved by a modification of a layer which is not even in contact with the polysilicate, but only in contact with the primer. This cannot be derived by Hubbard.

The problem solved by Knoerzer is an improved adhesion between the PVOH primer layer and the polyolefin film. But this never was a problem with the silicate coated film.

Therefore this teaching does not provide any motivation to try such modified polyolefin film for improving the barrier of the polysilicate coating. From a better adhesion of the PVOH it cannot be derived that the polysilicate coating on the PVOH primer layer will have a better oxygen barrier.

Knoerzer discloses such coextruded films (see col. 2, lines 51-56). The laminate bond adhesion is not an issue for coextruded films. Therefore, Knoerzer does not address this problem of laminate bond adhesion at all. Knoerzer is related to the adhesion of the PVOH which is applied by a coating process, which again is distinct and different from a lamination or coextrusion process (see col. 2, lines 51-57). The PVOH is coated onto the surface of the coextruded film in order to provide a good surface for the subsequent metallisation (see col. 2, lines 51-57). It is nowhere disclosed to use either the coextruded base film of Knoerzer, nor the PVOH coated embodiment of Knoerzer, nor the metallised film according to Knoerzer in a lamination process. Knoerzer teaches to improve the adhesion of the PVOH coating on the base film by applying a PEI primer on the surface of the base film to be coated with PVOH. Accordingly the adhesion between the PVOH coating and the film is improved by means of the PEI primer. But this solves a different problem other than the lamination bond adhesion according to applicant's invention. According to Knoerzer instead of the PEI primer a base film with maleic modified surface may be used. Such maleic modified surface can be coated with PVOH without additional primer (see col. 2, lines 60 – 67). Accordingly the teaching of Knoerzer is to replace the primer by a maleic modified surface layer. But again this modification does not teach anything about lamination bond strength.

Also Knoerzer does not give any hint how to improve the oxygen barrier of a silicate coating. There is no hint as to whether and how the maleic modification of the surface could affect the barrier properties at all. The person of ordinary skill in the art would rather derive from Knoerzer that the barrier properties of the film are same regardless whether the surface is primed with PEI or modified with maleic anhydride. This teaching is correct for metallised films. If the films according to the examples of Knoerzer have a maleic anhydride modified surface instead of the propylene-homopolymer surface the oxygen barrier of the metallised film remains basically the same. This can derive from a comparison of the examples of Knoerzer and the examples of a very close patent, namely US 5,491,023.

In the applicant's invention the modification of the surface of the base film affects the oxygen barrier. The silicate coated film has a much better oxygen barrier when the base film has a maleic modified surface versus films with no such maleic modified surface. There is no such effect by the maleic modification on the oxygen barrier of a subsequent metallisation.

These facts can be supported by the following examples:

According to Knoerzer an analogous film structure (polyolefin base film with no modification) is coated with PVOH in a similar manner. Subsequently such PVOH surface is metallised. The oxygen barrier of the metallised film is much better than the one achieved by the silicate coating.

If a person of ordinary skill in the art would replace the cover layer in the base film of Knoerzer by a maleic modified cover layer and is provided the same PVOH and the same metallisation on the PVOH. The applicant has informed the undersigned that the oxygen barrier remains about the same 0.3 – 0.4. This can be derived from the examples of US 5,491,023. This

means: that the oxygen barrier of the metallised film does not change whether the base layer has a maleic modified surface layer or not.

If a person of ordinary skill in the art would replace the cover layer in the applicant's base film by a maleic modified cover layer and apply the same PVOH and the same silicate coating on the PVOH, they would achieve an oxygen barrier that is about 0.8 – 0.9 (example 7 of the applicant's invention), which means the oxygen barrier was improved from about 6.5 to <1!! Now the oxygen barrier is in about the same order as usually only metallised films can provide!! This is a surprising effect, which could not be derived from the prior art teaching.

The oxygen barrier is an important feature in many applications. Such high oxygen barrier usually can only be provided by metallisation, which goes along with non-transparency. The applicant's invention provides a film which combines transparency and excellent oxygen barrier (see page 1, lines 4-7 of the applicant's specification). Moreover these excellent oxygen barrier values also "survive" the lamination process, which usually follows somewhere down the way to the final packaging. Clearly no such teaching about the lamination and bond strength of the laminate can be found in the prior art.

A statement that modifications of the prior art to meet the claimed invention would have been "obvious to one of ordinary skill in the art at the time the invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993). See MPEP § 2143.01 IV. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with

some rational underpinning to support the legal conclusion of obviousness.” *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). Furthermore, the Examiner cannot selectively pick and choose from the disclosed parameters without proper motivation as to a particular selection. The mere fact that a reference may be modified to reflect features of the claimed invention does not make the modification, and hence the claimed invention, obvious unless the prior art suggested the desirability of such modification. *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430 (Fed. Cir. 1990); *In re Fritch*, 23 USPQ2d 1780 (Fed. Cir. 1992). Thus, it is impermissible to simply engage in a hindsight reconstruction of the claimed invention where the reference itself provides no teaching as to why the applicant’s combination would have been obvious. *In re Gorman*, 933 F.2d 982, 987, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991).

Therefore, a combined reading of Hubbard with Knoerzer does not help, because any such effect of the modified surface on the barrier of the metal layer which has been applied to the PVOH primer layer does not exist. For the above reasons, this rejection should be withdrawn.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

A one month extension has been paid. Applicant believes no additional fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 05581-00136-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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